Mississippi's Voluntary Silvicultural
Best Management Practices Implementation
Monitoring Program

2007 BMP Implementation Survey
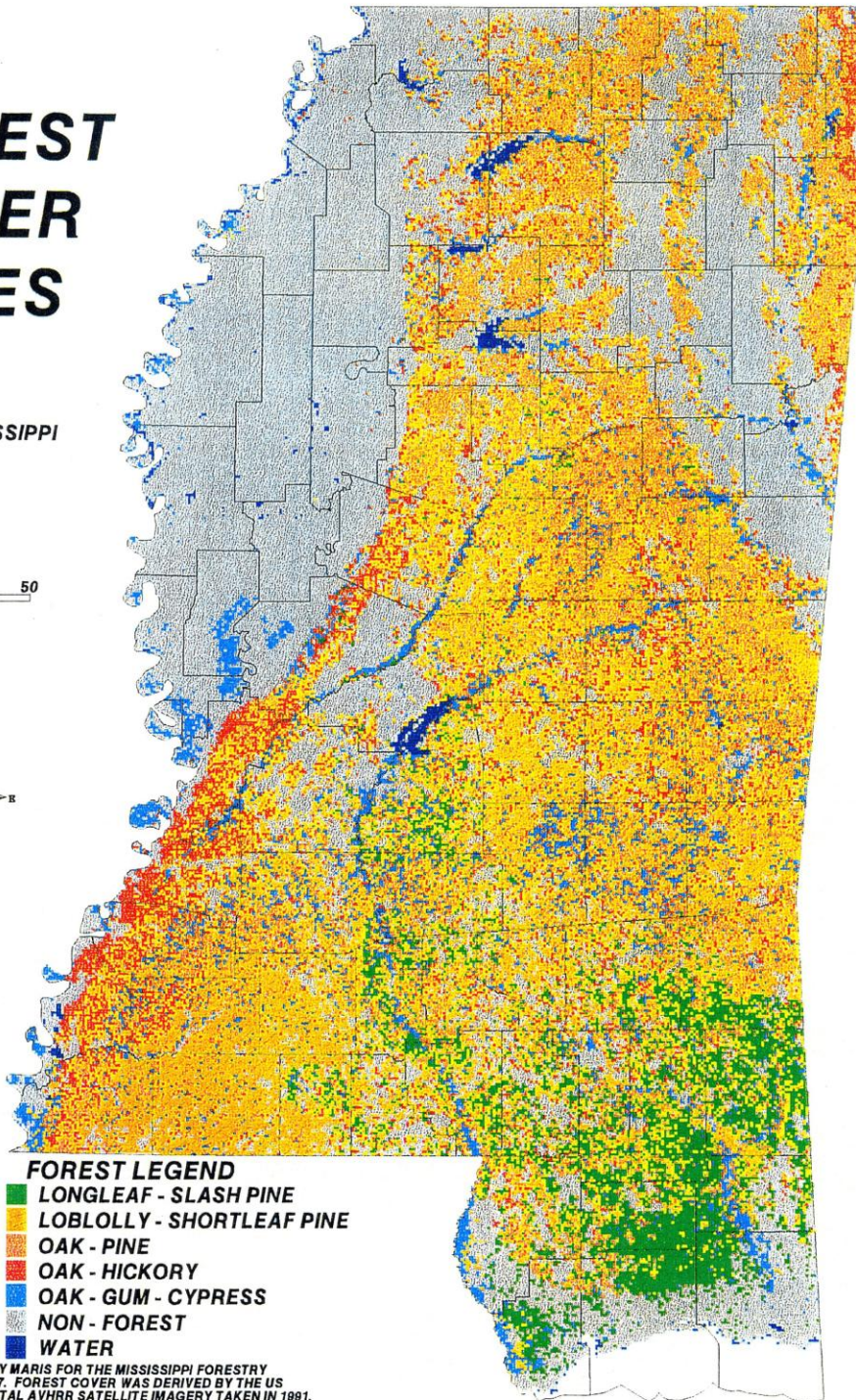# For Mississippi

Prepared by Office of MIFI & Management

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Charlie Morgan
State Forester

FOREST COVER TYPES

STATE OF MISSISSIPPI

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0        25        50
▬▬▬ ▬▬ ▬▬▬
MAP SCALE IN MILES
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FOREST LEGEND
- 🟩 LONGLEAF - SLASH PINE
- 🟨 LOBLOLLY - SHORTLEAF PINE
- 🟧 OAK - PINE
- 🟥 OAK - HICKORY
- 🟦 OAK - GUM - CYPRESS
- ⬜ NON - FOREST
- 🟦 WATER

THIS MAP WAS PREPARED BY MARIS FOR THE MISSISSIPPI FORESTRY
COMMISSION, OCTOBER 1997. FOREST COVER WAS DERIVED BY THE US
FOREST SERVICE FROM DIGITAL AVHRR SATELLITE IMAGERY TAKEN IN 1991.
AVHRR SPATIAL RESOLUTION IS APPROXIMATELY 247 ACRES (1x1 km).

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Table of Contents

Mississippi´s

BMPs

BEST MANAGEMENT PRACTICES
FOR FORESTRY IN MISSISSIPPI

Executive Summary

In the summer of 2007 the Mississippi Forestry Commission conducted field survey of best management practices (BMPs) voluntarily implemented on forestland in Mississippi. This report presents the results of that survey.

The guidelines set forth in "Silvicultural Best Management Practices Implementation Monitoring: A Framework for State Forestry Agencies" was used to develop the 2007 BMP Implementation Survey for Mississippi.

A total of 246 sites in 70 counties located in 8 watersheds in Mississippi were randomly selected for evaluation of the implementation of voluntary best management practices. The Commission utilized its own personnel to conduct the survey.

The following criteria were applied in selecting sites to be included in the survey:
1) Forest harvesting activities occurring within 24 months.
2) Sites must be at least 10 acres in size.
3) Sites were selected without regard to ownership.

The 2007 BMP Implementation Survey results for Mississippi revealed that 93 percent of best management practices applicable to the survey sites were implemented in accordance with the guidelines set forth for state forestry agencies to follow. This represents a 4 percent increase over sites evaluated in 2003 survey. Figure 1 shows the BMP categories evaluated and their corresponding results.

There were no sites determined as having a significant risk to water quality.

20007 BMP Implementation Results

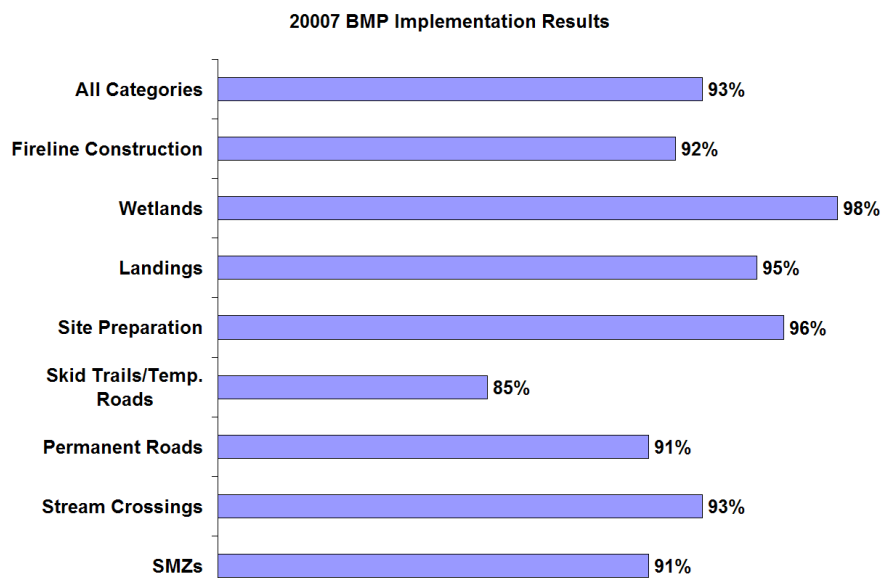| Category	Result
All Categories	93%
Fireline Construction	92%
Wetlands	98%
Landings	95%
Site Preparation	96%
Skid Trails/Temp. Roads	85%
Permanent Roads	91%
Stream Crossings	93%
SMZs	91%

Figure 1. BMP categories and implementation results.

Introduction – BMPs IN Mississippi

Mississippi has nearly 20 million acres of forestland, covering two-thirds of the state's total land area. Forests make an important contribution to Mississippian's quality of life by providing jobs, forest products, livestock forage areas, wildlife habitat, scenic areas, recreational experiences, clean air, clean water, and many other social, economic, and health benefits.

The Clean Water Act of 1987 required that proper steps be taken to prevent water pollution. Mississippi's Silvicultural Best Management Practices (BMPs) were established as a result of the Clean Water Act of 1987. Best Management Practices are non-regulated, voluntary guidelines for silvicultural activities that, when properly applied will protect water quality from non-point source pollutants while maintaining site productivity. Non-point source pollution is defined in Section 319 of the Clean Water Act of 1987 as "pollution caused by diffuse sources that are not regulated as point sources and normally associated with agricultural, *silvicultural* [emphasis added], urban runoff, and runoff from construction activities, etc. Such pollution results in human-made or human-induced alteration of the chemical, physical, biological, and radiological integrity of the water."

The Best Management Practices Implementation Monitoring Program was developed to provide a way to measure the voluntary use of BMPs in Mississippi. The program began in 1988 when the Department of Environmental Quality requested that the Mississippi Forestry Commission coordinate the development of voluntary best management practices for forestry in Mississippi. The Mississippi Forestry Commission worked with the Mississippi Forestry Association to put together a group of individuals representing a cross section of the forestry community to develop the guidelines. This group included landowners, loggers, forest industry, professional foresters, and the Department of Environmental Quality. Suggestions and comments from other states were also considered in the development of Mississippi's silvicultural BMPs.

The BMP guidelines were approved by the Mississippi Department of Environmental Quality and the Environmental Protection Agency and, in 1989, published in the handbook *Mississippi's BMPs – Best Management Practices for Forestry in Mississippi.* The handbook was revised in 1995, 2000, and is currently undergoing another revision.

2007 BMP Implementation Survey Procedure

Sampling Method

The 2007 BMP Implementation Survey is a statewide survey designed to assess statewide bmp compliance and not individual basin BMP compliance. Therefore all results contained in this report are <u>statewide results only</u>.

The number of sites to be evaluated was determined from 2006 severance tax information. Based upon the severance tax information 246 sites were required to be evaluated in 70 counties.

Sites selected were randomly chosen from aerial reconnaissance. The latitude and longitude of each site was determined using the aircrafts onboard navigation system. The number of sites identified from the air exceeded the required number of sites to be evaluated. This would insure that if a site did not meet requirements or was inaccessible from the ground there would be enough sites identified to meet the 246 site requirement.

Eligible Survey Sites

Site selection criteria used for the 2007 survey were: (1) sites had to have had some type of forest harvesting activity, either regeneration harvest or thinning, within a period of two years prior to the survey, (2) sites must be at least 10 acres in size, and (3) sites were selected without regard to ownership. The ownership of a site was determined after the site had been selected. This allowed for an unbiased selection and distribution of survey sites in regard to ownership.

Survey Site Evaluation

For each site surveyed by a Commission forester 73 values were collected on each of the 8 BMP categories. The BMP categories are as follows:

- Streamside Management Zone (SMZ)
- Stream Crossings
- Permanent Roads
- Skid Trails/Temporary (Secondary) roads
- Site Preparation Activities
- Landings
- Wetlands
- Fireline Construction

If a value within a category did not apply to the survey site, it was recorded as Not Applicable (N/A). All other practices were considered applicable to the site and were evaluated on whether or not they were implemented as specified in Mississippi' BMP handbook. This method of evaluation allowed each BMP category and, ultimately, the

overall BMP implementation program, to be evaluated and the results expressed as a percent of applicable BMPs implemented.

The presence of a significant risk to water quality was noted for each bmp practice evaluated. The forester evaluating the site used the following standard to determine the presence of a significant risk to water quality: Significant risk to water quality exists, if during a normal rainfall, sediment is likely to be delivered to a permanent water body. The presence of a significant risk did not mean that water quality was impaired on the site.

All information recorded for each BMP was based on observations made at the time of the inspection. The evaluation process did not include any assumptions concerning future activities on the site.

2007 BMP IMPLEMENTATION SURVEY RESULTS

Tract Summary

Tract acres were divided into 5 class sizes, 10 to 40, 41 to 80, 81 to 120, 121 to 160, and greater than 160.
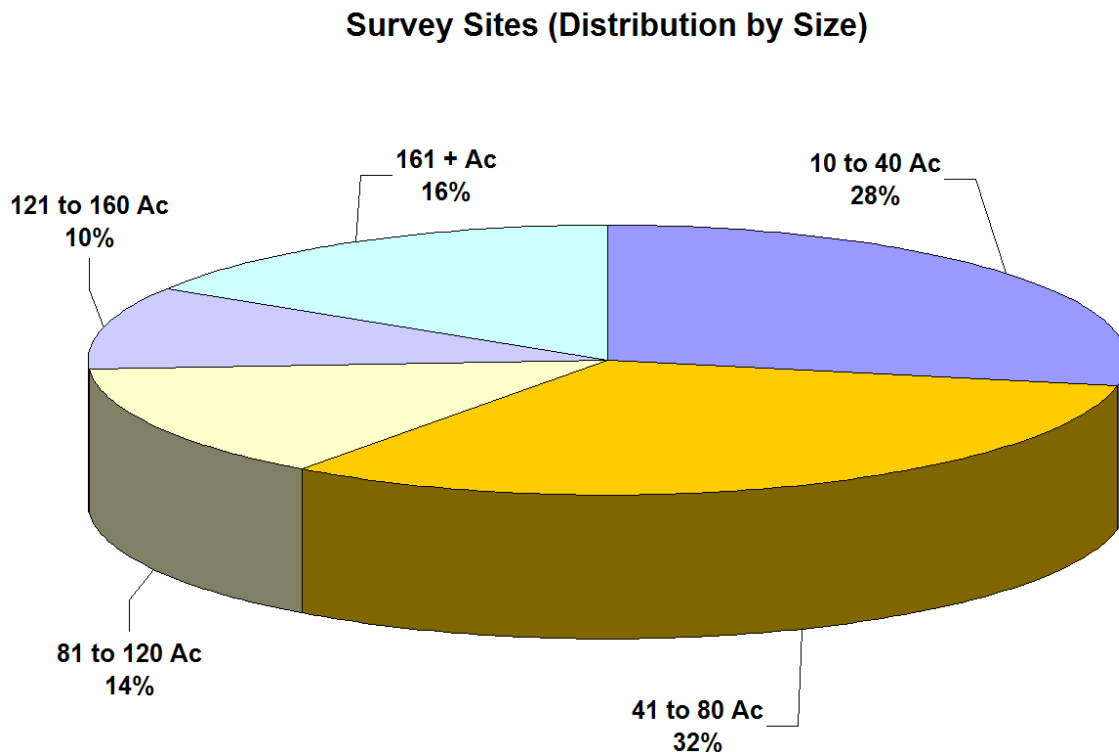
Survey Sites (Distribution by Size)

Figure 2 Distribution of survey sites by tract size.

Ownership Summary

The survey sites were distributed and selected without regard to ownership in order to ensure an unbiased sample. Ownership was determined after a site was located. Figure 3 shows the distribution of survey sites in regard to ownership classes.

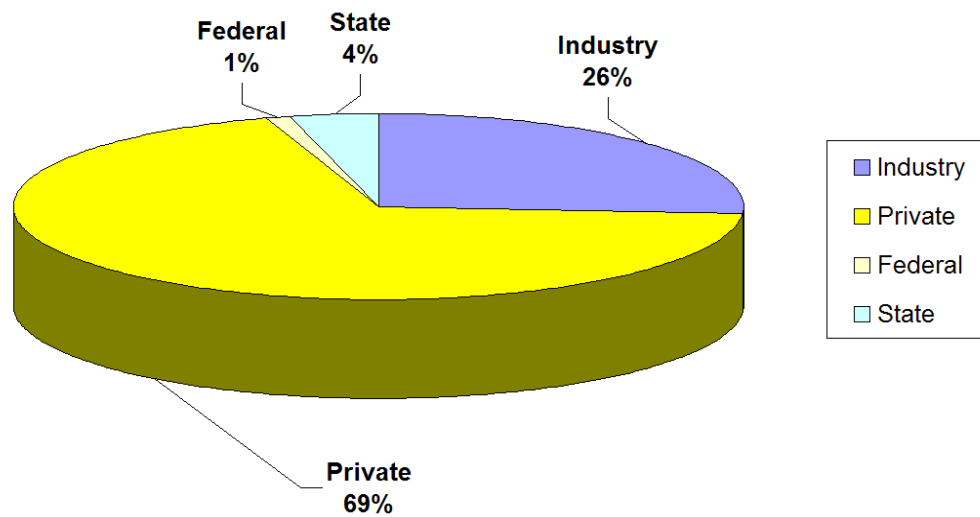**Survey Sites (Distribution by Ownership)**

Figure 3 Distribution of survey sites by ownership

BMP Category Summary

The number of survey sites on which BMP categories were applicable is shown in Figure 5 by Category.

Number of Survey Sites by BMP Category

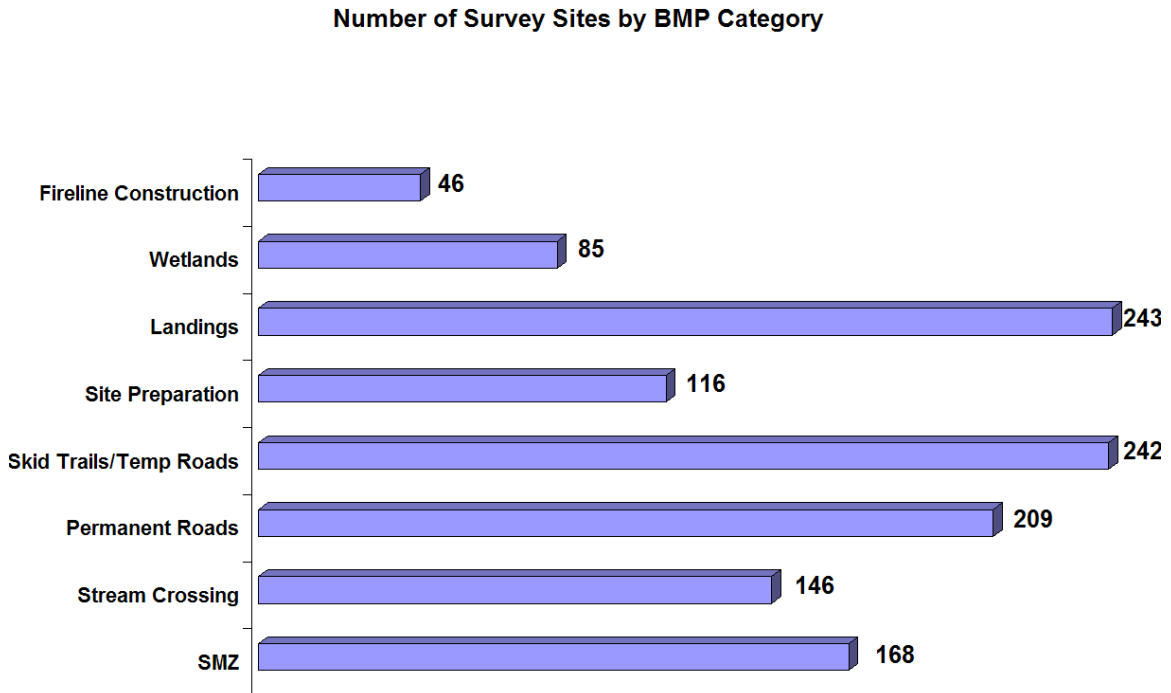| BMP Category	Number of Survey Sites
Fireline Construction	46
Wetlands	85
Landings	243
Site Preparation	116
Skid Trails/Temp Roads	242
Permanent Roads	209
Stream Crossing	146
SMZ	168

Figure 5 Number of survey sites by BMP category.

BMP Implementation Summary

BMPs were evaluated based on whether they were implemented as specified in Mississippi's BMP handbook. Results showed that 93 percent in 2007 were implemented as specified compared to 89 percent in the 2003 survey, an increase of 4 percent. All categories had a higher percentile implemented than they did in 2003.

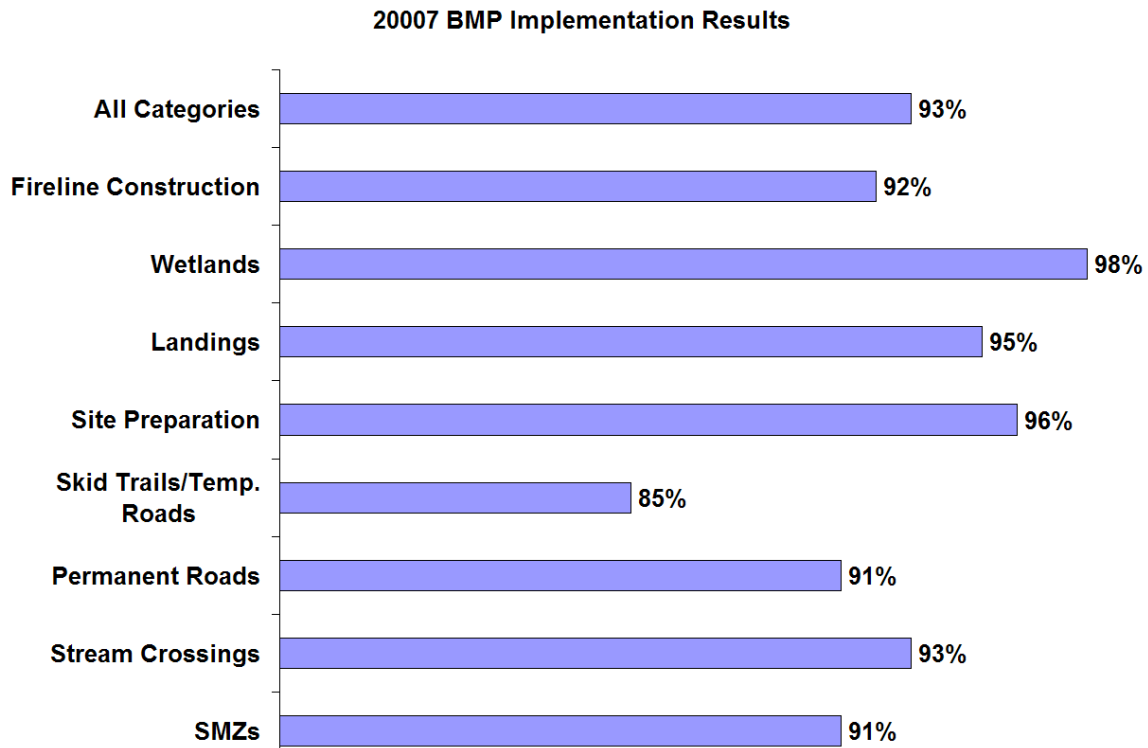Each of the eight BMP categories was summarized and results can be seen in Figure 6.

20007 BMP Implementation Results

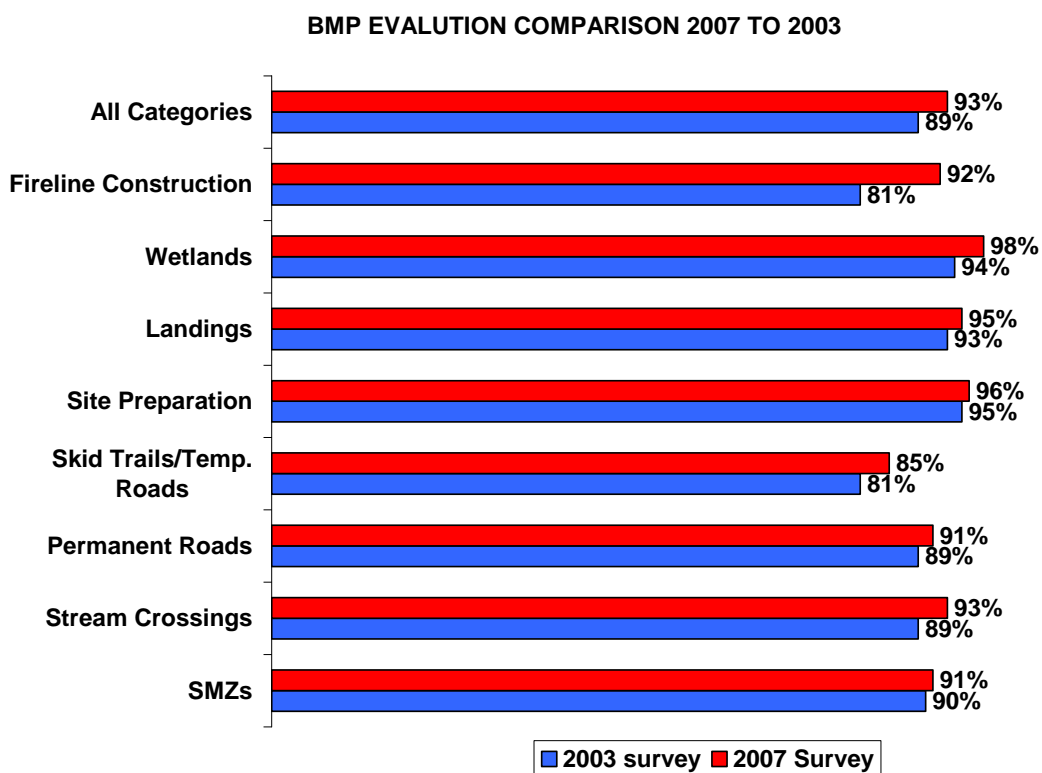| Category	Percent
All Categories	93%
Fireline Construction	92%
Wetlands	98%
Landings	95%
Site Preparation	96%
Skid Trails/Temp. Roads	85%
Permanent Roads	91%
Stream Crossings	93%
SMZs	91%

Figure 6. BMP categories and implementation results (percent)

Comparison of 2003 Survey to the 2007 Survey

The 2007 survey results exceed the 2003 survey results in all categories. Skid
Trails/Temporary Roads remains the category with the lowest evaluation in 2007 and
2003. However, that category in 2007 survey was 4 percent higher than in 2003. The
category with the highest improvement was Fireline Construction. It improved by 11
percent.

Figure 7 shows comparison of 2003 Survey to the 2007 Survey

BMP EVALUTION COMPARISON 2007 TO 2003

Category	2003 survey	2007 Survey
All Categories	89%	93%
Fireline Construction	81%	92%
Wetlands	94%	98%
Landings	93%	95%
Site Preparation	95%	96%
Skid Trails/Temp. Roads	81%	85%
Permanent Roads	89%	91%
Stream Crossings	89%	93%
SMZs	90%	91%

Appendix

BMP Monitoring Survey Sites by County

COUNTY	2007 Survey Sites	COUNTY	2007 Survey Sites
ADAMS	1	LINCOLN	4
ALCORN	2	LOWNDES	2
AMITE	7	MADISON	2
ATTALA	6	MARION	6
BENTON	1	MARSHALL	1
BOLIVAR	0	MONROE	3
CALHOUN	4	MONTGOMERY	2
CARROLL	3	NESHOBA	5
CHICKASAW	1	NEWTON	4
CHOCTAW	6	NOXUBEE	4
CLAIBORNE	2	OKTIBBEHA	2
CLARKE	5	PANOLA	3
CLAY	1	PEARL RIVER	8
COAHOMA	0	PERRY	7
COPIAH	5	PIKE	3
COVINGTON	3	PONTOTOC	1
DESOTO	0	PRENTISS	3
FORREST	5	QUITMAN	0
FRANKLIN	4	RANKIN	6
GEORGE	2	SCOTT	4
GREENE	8	SHARKEY	0
GRENADA	2	SIMPSON	2
HANCOCK	3	SMITH	2
HARRISON	1	STONE	5
HINDS	3	SUNFLOWER	0
HOLMES	2	TALLAHATCHIE	1
HUMPHREYS	0	TATE	0
ISSAQUEENA	0	TIPPAH	3
ITAWAMBA	4	TISHOMINGO	5
JACKSON	1	TUNICA	0
JASPER	5	UNION	1
JEFF DAVIS	2	WALTHALL	6
JEFFERSON	2	WARREN	2
JONES	7	WASHINGTON	0
KEMPER	6	WAYNE	6
LAFAYETTE	2	WEBSTER	3
LAMAR	7	WILKINSON	4
LAUDERDALE	6	WINSTON	5
LAWRENCE	3	YALOBUSHA	3
LEAKE	4	YAZZO	1
LEE	1		
LEFLORE	0	TOTAL	146

Mississippi Forestry Commission BMP Monitoring Inspection Form

1. General Tract Information

County: Site ID #:

Silvicultural Activity: Tract Size (Acres):   Ownership Group:

⊙	Regeneration Cut	⊙	10-40	⊙	121-160	⊙	PNIF	⊙	Federal
⊙	Thinning	⊙	41-80	⊙	161 or more	⊙	State	⊙	Industry
⊙					81-120				

MISSISSIPPI'S RIVER BASINS:

⊙	Big Black,	⊙	Coastal Streams	⊙	Yazoo River	⊙	North Independent Streams
⊙	Pascagoula	⊙	Tombigbee River	⊙	Pearl River	⊙	Tennessee River
⊙	Upper Mississippi	⊙	Lower Mississippi	⊙	South Independent Streams		

2. Site Characteristics

Estimate Slop Present: Predominant Soil Texture: Erodibility Hazard: Type of Stream Present:

⊙	0% - 5%	⊙	Clay	⊙	Sandy Loam	⊙	Low	⊙	Perennial Stream
⊙	6% - 20%	⊙	Clay Loam	⊙	Sand	⊙	Medium	⊙	Intermittent Stream
⊙	21% - 40%	⊙	Loam	⊙	Silty Soils	⊙	High	⊙	Ephemeral Stream
⊙	40% or greater					⊙	⊙	N/A	

Distance To Nearest Permanent Water Body: Evidence Of Spills Or Fuels On Site: Trash, Oil Cans, Hoses Or Other Containers Left On Site: Has Tract Been Regenerated Artificially?

⊙	300 feet or less	⊙	Yes	⊙	Yes	⊙	Yes
⊙	301 – 800 feet	⊙	No	⊙	No	⊙	No
⊙	801 – 1600 feet			⊙	N/A		
⊙	1601 or greater						

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3. Streamside Management Zone:

	N/A	YES	NO	SIG. RISK
A.	SMZ Width Established According To Bmp Specifications			
B.	Harvesting/ Thinning Within SMZ According BMP Specifications			
C.	SMZ Integrity Honored (No. Chemicals, No Fertilizer, Burning, Log Decks Within SMZ)			
D.	Stream Course Clear of Logging Debris			
E.	SMZ Free Of Roads And Landings			
F.	Stream Free Of Sediment Due To Silvicultural Activity			
G.	Rutting Through Streams or Drains Avoided			
H.	Prescribed Burning Avoided			
I.	Blocking The Natural Flow Of Water Avoided			
J.	Stream Bank Integrity Honored			

Section Total

Percent Compliance